CLAIMS

WHAT IS CLAIMED IS:

1. A device for delivering a fluid comprising:

- a housing having an interior region and an opening;

- a quantity of fluid within the interior of housing;

- means for causing a pressure differential between the interior region of housing and the immediate surroundings of the housing, wherein the pressure differential, in turn, forces a predetermined quantity of fluid from within the interior region of the housing to the opening; and

- means associated with the opening for controlling the flow of fluid through the opening.

2. The device according to claim 1 wherein the pressure differential causing means comprises means for increasing the temperature within the housing which, in turn, increases the pressure of the gas within the housing.

3. The device according to claim 1 wherein the pressure differential causing means comprises means for increasing the barometric pressure external to the housing.

4. The device according to claim 1 wherein the pressure differential causing means comprises means for decreasing the barometric pressure external to the housing.

5. The device according to claim 1 wherein the pressure differential causing means comprises means for lowering the temperature within the housing, to, in turn, decrease the

pressure of the gas within the housing.

6. The device according to claim 1 wherein the pressure differential causing means comprises means for pressurizing the interior of the housing.

7. The device according to claim 6 wherein the pressure differential causing means comprises means for facilitating one-way passage of gas into the housing and precluding passage of gas from within the housing.

8. The device according to claim 6 wherein the pressurizing means comprises a gas generating cell.

9. The device according to claim 8 wherein the gas generating means comprises an electrochemical gas generating cell.

10. The device according to claim 8 further including means for selectively activating the gas generating cell.

11. The device according to claim 6 wherein the pressurizing means comprises a piezoelectric cell.

12. The device according to claim 1 wherein the pressure differential causing means comprises means for altering the volume of the housing by way of external pressure.

13. The device according to claim 12 wherein the external pressure results in a change of at least one of temperature or barometric pressure within the housing.

14. The device according to claim 1 wherein the pressure differential causing means further includes means for cyclically varying the pressure differential between the interior of the housing and the immediate surroundings of the housing.

15. The device according to claim 1 wherein the pressure differential causing means further includes a check valve, to, in turn, prevent inadvertent flow of fluid wherein the pressure differential exceeds a predetermined value

16. The device according to claim 1 wherein the flow control means further comprises a porous plug.

17. The device according to claim 1 wherein the flow control means further comprises a tunnel of predetermined length and cross-sectional area, so as to permit a certain level of maximum flow therethrough.

18. The device according to claim 17 wherein the tunnel comprises a helical passage.

19. The device according to claim 17 wherein the tunnel comprises a sinusoidal path.

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20. The device according to claim 17 wherein the opening includes:

- a restrictor plug having an outer surface;
- a receptacle having an inner surface; and
- a groove disposed on one of the inner and outer surfaces,

wherein a tunnel is defined by the cooperation of the groove and the outer surface upon positioning of the restrictor plug and the receptacle into operative engagement.

21. The device according to claim 20 wherein the groove is disposed on the outer surface of the restrictor plug.

22. The device according to claim 20 wherein the groove extends circumferentially about the outer surface of the restrictor plug.

23. The device according to claim 20 wherein the groove extends longitudinally along the outer surface of the restrictor plug in one of a linear and a sinusoidal configuration.

16 24. The device according to claim 20 wherein the groove comprises a first groove and a second groove, the first groove is disposed on the inner surface of the receptacle, the second groove is disposed on the outer surface of the restrictor plug, the first and second groove being placed in fluid communication upon positioning of the receptacle and the restrictor plug into operative engagement.

25. The device according to claim 24 wherein one of an effective length and an effective area

of the tunnel can be varied by relative movement of the restrictor plug and the receptacle.

26. The device according to claim 1 further comprising an emanator associated with the opening of the housing.

27. The device according to claim 26 wherein the emanator is positioned at a predetermined distance from the opening of the housing.

28. The device according to claim 26 wherein the emanator comprises a porous material.

29. The device according to claim 26 wherein the emanator comprises a substantially non-porous material.

30. The device according to claim 26 wherein the emanator further includes means for enhancing the volatilization of the fluid.

31. The device according to claim 26 wherein the volatilization enhancing means further comprises a ventilation fan associated with the emanator.

32. The device according to claim 26 wherein the volatilization enhancing means further comprises a heating element associated with at least one of the emanator or the housing.

33. The device according to claim 1 further including means for providing a bolus, to, in turn,

temporarily increase the quantity of fluid delivered from the device.

34. The device according to claim 33 wherein the bolus providing means comprises means for increasing the pressure within the housing, to, in turn, increase flow through the opening.

35. The device according to claim 33 wherein the bolus providing means further comprises:

- a second opening associated with the housing; and
- means for delivering the fluid within the housing through the opening.

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36. The device according to claim 35 wherein the delivering means comprises a spray pump.

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37. The device according to claim 35 wherein the delivering means comprises an atomizer.

38. The device according to claim 33 wherein the bolus providing means further includes means for enhancing the volatilization of the fluid.

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39. The device according to claim 38 wherein the volatilization enhancing means comprises a heating element.

40. The device according to claim 33 wherein the volatilization enhancing means comprises a ventilation fan.

41. The device according to claim 1 further including means for attaching the device to a

living being.

42. The device according to claim 41 wherein the attaching means facilitates attachment of the device to an animal.

43. The device according to claim 1 wherein the device is utilized within the cabin of an airplane, and the means for causing a pressure differential causes a pressure differential upon one of pressurization and depressurization of the cabin of the airplane

44. The device according to claim 1 wherein the housing includes means for releasing a predetermined quantity of fluid therefrom.

45. The device according to claim 44 wherein the predetermined release means includes:

- a fixed volume gas chamber;
- a fixed volume fluid chamber having a fluid release opening; and
- separating means between the fixed volume fluid chamber and the fixed volume gas chamber.

46. The device according to claim 45 wherein the separating means comprises a flexible diaphragm.

47. The device according to claim 45 further including a first fluid control valve operatively associated with the fluid release opening.

48. The device according to claim 45 further including a fluid reservoir operatively connected with the fixed volume fluid chamber.

49. The device according to claim 45 wherein the fixed volume fluid chamber further includes a second fluid control valve operatively associated with the fluid reservoir.

50. The device according to claim 1 wherein the housing includes an interior region defining a fixed volume and where the housing includes means for selectively altering the volume.

51. The device according to claim 50 wherein the volume selection means comprises a slidably adjustable sealing member.

52. A method of delivering a fluid comprising the steps of:

- providing a fluid within a housing;
- providing an opening in fluid communication with the surroundings of the housing and with the fluid;
- causing a pressure differential between the housing and the surroundings of the housing; and
- utilizing the pressure differential to direct fluid through the opening.

53. A restrictive opening for controlling the passage of fluid therethrough comprising:

- a restrictor plug having an outer surface, a first end and a second end;

- a receptacle having an inner surface, a first end and a second end; and

- a groove disposed on one of the inner and outer surfaces extending from the first end to the second end thereof,

wherein a tunnel is defined by the cooperation of the groove and the outer surface upon positioning of the restrictor plug and the receptacle into operative engagement to, in turn, permit the passage of fluid from the first end to the second end of the restrictor plug in a controlled manner.

54. The device according to claim 53 wherein the groove is disposed on the outer surface of the restrictor plug.

55. The device according to claim 53 wherein the groove extends circumferentially about the outer surface of the restrictor plug.

56. The device according to claim 53 wherein the groove extends longitudinally along the outer surface of the restrictor plug in a sinusoidal configuration.

57. The device according to claim 53 wherein the groove comprises a first groove and a second groove, the first groove is disposed on the inner surface of the receptacle, the second groove is disposed on the outer surface of the restrictor plug, the tunnel being defined by the placement of the first and second groove in fluid communication upon positioning of the receptacle and the restrictor plug into operative engagement.

58. The device according to claim 57 wherein one of an effective length and an effective area of the tunnel can be varied by relative movement of the restrictor plug and the receptacle, and, in turn, the first and second grooves.

59. A device for delivering a fluid comprising:

- a housing having an interior and an opening;
- a quantity of fluid within the interior of housing;
- means associated with the opening for controlling the flow of fluid through the opening at a substantially constant rate.

60. The device of claim 59 wherein the flow controlling means controls the flow at the substantially constant rate substantially independent of the quantity of fluid within the interior of the housing.

61. A device for delivering a fluid comprising:

- a housing having an interior and an opening;
- a quantity of fluid within the interior of housing, the fluid having an effective dose;
- means for forcing a predetermined quantity of fluid from within the interior of the housing to the opening; and
- means associated with the opening for controlling the flow of fluid through the opening, at a flow rate substantially corresponding to the effective dose of the fluid.

62. A device for delivering a fluid comprising:

- a housing having an interior and an opening;

- a quantity of fluid within the interior of housing, the fluid comprising a parasiticide in an effective dose;

- means for forcing a predetermined quantity of fluid from within the interior of the housing to the opening; and

- means associated with the opening for precluding the development of resistance to the parasiticide.

65. A method of delivering a fluid comprising the steps of:

- providing a fluid within a housing;

- providing an opening in fluid communication with the surroundings of the housing and with the fluid; and

- directing fluid through the opening at a substantially constant rate.

66. A method of delivering a fluid comprising the steps of:

- providing a fluid within a housing the fluid having an effective dose;

- providing an opening in fluid communication with the surroundings of the housing and with the fluid; and

- directing fluid through the opening at a rate substantially corresponding to the effective dose.

67. The method of claim 66 further comprising the step of continuing the step of directing the fluid until substantially all of the fluid has been directed from within the housing.